

AMENDMENTS TO THE CLAIMS

Claim 1. (Currently Amended) A method for reproducing a video signal, comprising the steps of:

receiving a video signal with appended copy management information at a reproducing device via a satellite communication link; said copy management information including an indicator of whether copying of only digital data is inhibited or copying of both digital data and analog signals is inhibited;

detecting said copy management information that has been appended to the video signal; and

providing a copy permission indicator in the received video signal by generating a protect code signal based on said copy management information, said protect code signal having plural coded bits and being operable to indicate a generation limitation on copying of the video signal, and arraying said protect code signal at a pre-set position in the video signal; and

performing a pre-set conversion operation on said digital data and/or an analog signal generated from said digital data, based on said copy management information;

wherein said pre-set conversion operation for said analog signal includes a color burst inverting operation in which the phase of a front part of a color burst signal in said analog signal is inverted.

Claim 2. (Original) The method according to claim 1, wherein said protect code signal includes two bits of information, each having distinct significance and together identifying various copy permission states.

Claim 3. (Original) The method according to claim 2, wherein said two bit protect code signal is indicative of at least three copy permission states: copying is permitted without restriction, one generation of copying is permitted, and no copying is permitted.

Claim 4. (Original) The method according to claim 1, wherein the video signal includes a vertical blanking interval, and wherein said protect code signal is encoded in the vertical blanking interval of the video signal at line 20 of a field.

Claim 5. (Original) The method according to claim 1, wherein the video signal includes a vertical blanking interval, and wherein said protect code signal is encoded in the vertical blanking interval of the video signal at line 21 of a field.

Claim 6. (previously presented) The method according to claim 1, wherein the video signal includes a vertical blanking interval, and wherein said protect code signal includes two bits of information, each having distinct significance and together identifying various copy permission states, said protect code signal is encoded in the vertical blanking interval of the video signal at line 20, and a logical "1" of said protect code signal is represented by a level of substantially 50-IRE and a logical "0" of said protect code signal is represented by a level of substantially 0-IRE.

Claim 7. (previously presented) The method according to claim 1, wherein the video signal includes a vertical blanking interval, and wherein said protect code signal includes

two bits of information, each having distinct significance and together identifying various copy permission states, said protect code signal is encoded in the vertical blanking interval of the video signal at line 21, and a logical “1” of said protect code signal is represented by a level of substantially 70-IRE and a logical “0” of said protect code signal is represented by a level of substantially 0-IRE.

Claim 8. (Original) The method according to claim 1, further comprising the steps of:

detecting charging information in the received video signal; and
transmitting said charging information to a billing center.

Claim 9. (Original) The method according to claim 1, further comprising the steps of:

transmitting account status information from a billing center to said reproducing device; and
controlling reproduction of the video signal according to said account status information.

Claim 10. (Original) The method according to claim 9, wherein said step of controlling reproduction involves disabling the arraying of said protect code signal in the video signal.

Claim 11. (Currently Amended) A method for reproducing a video signal of the type having a vertical blanking interval and sync pulses, comprising the steps of:

receiving a video signal with appended copy management information at a reproducing device via a satellite communication link; said copy management information including an indicator of whether copying of only digital data is inhibited or copying of both digital data and analog signals is inhibited;

detecting said copy management information that has been appended to the video signal;

generating a copy protection signal based on said copy management information;
and

inserting said copy protection signal into the video signal by arraying a multiple of pseudo-sync pulses in the vertical blanking interval of the video signal, said pseudo-sync pulses having an amplitude substantially equal to the amplitude of the video signal sync pulses, and arraying a multiple of automatic gain control (AGC) pulses in the vertical blanking interval of the video signal; and

performing a pre-set conversion operation on said digital data and/or an analog signal generated from said digital data, based on said copy management information;

wherein said pre-set conversion operation for said analog signal includes a color burst inverting operation in which the phase of a front part of a color burst signal in said analog signal is inverted.

Claim 12. (previously presented) The method according to claim 11, wherein the duration of said AGC pulses is substantially 3.0 microseconds.

Claim 13. (previously presented) The method according to claim 11, wherein the video signal exhibits a peak white amplitude, and wherein the amplitude of said AGC pulses is greater than the peak white amplitude.

Claim 14. (Original) The method according to claim 11, wherein said pseudo-sync and AGC pulses are inserted on lines 1 to 17 and 273 to 280 of the vertical blanking interval of the video signal.

Claim 15. (previously presented) The method according to claim 11, wherein said pseudo-sync pulses have a duration of substantially 2.2 microseconds.

Claim 16. (Original) The method according to claim 11, wherein the video signal includes color burst signals of particular phase, and further comprising the step of modifying the phase of at least a portion of selected color burst signals of the video signal.

Claim 17. (Original) The method according to claim 16, wherein the steps of arraying said pseudo-sync pulses, arraying said AGC pulses and modifying the phase are performed for two successive lines of every 17 lines of the vertical blanking interval beginning at line 30 in field 1 and at line 301 in field 2.

Claim 18. (Original) The method according to claim 16, wherein the operations of arraying said pseudo-sync pulses, arraying said AGC pulses and modifying the phase are

performed for four successive lines of every 21 lines of the vertical blanking interval beginning at line 24 in field 1 and at line 297 in field 2.

Claim 19. (Original) The method according to claim 11, further comprising the steps of:

detecting charging information in the received video signal; and
transmitting said charging information to a billing center.

Claim 20. (Original) The method according to claim 11, further comprising the steps of:

transmitting account status information from a billing center to said reproducing device; and
controlling reproduction of the video signal according to said account status information.

Claim 21. (Original) The method according to claim 20, wherein said step of controlling reproduction involves disabling the inserting of said copy protection signal into the video signal.

Claim 22. (Currently Amended) A method for reproducing a video signal of the type having a vertical blanking interval, comprising the steps of:

receiving a video signal with appended copy management information at a reproducing device via a satellite communication link; said copy management

information including an indicator of whether copying of only digital data is inhibited or copying of both digital data and analog signals is inhibited;

detecting said copy management information that has been appended to the video signal in the form of a multiple of trigger bits; ~~and~~

providing copy protection in the video signal by arraying a multiple of pseudo-sync pulses and a multiple of automatic gain control (AGC) pulses in the vertical blanking interval of the video signal when said trigger bits indicate that copying should be inhibited; and

performing a pre-set conversion operation on said digital data and/or an analog signal generated from said digital data, based on said copy management information;

wherein said pre-set conversion operation for said analog signal includes a color burst inverting operation in which the phase of a front part of a color burst signal in said analog signal is inverted.

Claim 23. (Original) The method according to claim 22, wherein the video signal includes color burst signals of particular phase, and wherein when said trigger bits indicate that color burst modification should be performed, the phase of at least a portion of selected color burst signals of the video signal is modified.

Claim 24. (Original) The method according to claim 22, wherein said trigger bits are only operable when copyright subsists in the video signal.

Claim 25. (Original) The method according to claim 22, wherein said trigger bits are encoded in the vertical blanking interval of the video signal at line 20 of field 1 and line 20 of field 2.

Claim 26. (Original) The method according to claim 25, wherein said trigger bits are bits 9 and 10 of word 2 in a 20 bit digital signal.

Claim 27. (Original) The method according to claim 22, further comprising the steps of:

detecting charging information in the received video signal; and
transmitting said charging information to a billing center.

Claim 28. (Original) The method according to claim 22, further comprising the steps of:

transmitting account status information from a billing center to said reproducing device; and
controlling reproduction of the video signal according to said account status information.

Claim 29. (Original) The method according to claim 28, wherein said step of controlling reproduction involves disabling the arraying a multiple of pseudo-sync pulses and a multiple of automatic gain control pulses in the vertical blanking interval of the video signal.

Claim 30. (Currently Amended) An apparatus for reproducing a video signal,
comprising:

means for receiving a video signal with appended copy management information at a reproducing device via a satellite communication link; said copy management information including an indicator of whether copying of only digital data is inhibited or copying of both digital data and analog signals is inhibited;

means for detecting said copy management information that has been appended to the video signal; ~~and~~

means for providing a copy permission indicator in the received video signal by generating a protect code signal based on said copy management information, said protect code signal having plural coded bits and being operable to indicate a generation limitation on copying of the video signal, and arraying said protect code signal at a pre-set position in the video signal; and

means for performing a pre-set conversion operation on said digital data and/or an analog signal generated from said digital data, based on said copy management information;

wherein said pre-set conversion operation for said analog signal includes a color burst inverting operation in which the phase of a front part of a color burst signal in said analog signal is inverted.

Claim 31. (Original) The apparatus according to claim 30, wherein said protect code signal includes two bits of information, each having distinct significance and together identifying various copy permission states.

Claim 32. (Original) The apparatus according to claim 31, wherein said two bit protect code signal is indicative of at least three copy permission states: copying is permitted without restriction, one generation of copying is permitted, and no copying is permitted.

Claim 33. (Original) The apparatus according to claim 30, wherein the video signal includes a vertical blanking interval, and wherein said protect code signal is encoded in the vertical blanking interval of the video signal at line 20 of a field.

Claim 34. (Original) The apparatus according to claim 30, wherein the video signal includes a vertical blanking interval, and wherein said protect code signal is encoded in the vertical blanking interval of the video signal at line 21 of a field.

Claim 35. (previously presented) The apparatus according to claim 30, wherein the video signal includes a vertical blanking interval, and wherein said protect code signal includes two bits of information, each having distinct significance and together identifying various copy permission states, said protect code signal is encoded in the vertical blanking interval of the video signal at line 20, and a logical "1" of said protect code signal is represented by a level of substantially 50-IRE and a logical "0" of said protect code signal is represented by a level of substantially 0-IRE.

Claim 36. (previously presented) The apparatus according to claim 30, wherein the video signal includes a vertical blanking interval, and wherein said protect code signal includes

two bits of information, each having distinct significance and together identifying various copy permission states, said protect code signal is encoded in the vertical blanking interval of the video signal at line 21, and a logical "1" of said protect code signal is represented by a level of substantially 70-IRE and a logical "0" of said protect code signal is represented by a level of substantially 0-IRE.

Claim 37. (Original) The apparatus according to claim 30, further comprising:
means for generating charging information based on the received video signal;
and
means for transmitting said charging information to a billing center.

Claim 38. (Original) The apparatus according to claim 30, further comprising:
means for transmitting account status information from a billing center to said reproducing device; and
means for controlling reproduction of the video signal according to said account status information.

Claim 39. (Original) The apparatus according to claim 38, wherein said means for controlling comprises means for disabling the arraying of said protect code signal in the video signal.

Claim 40. (Currently Amended) An apparatus for reproducing a video signal of the type having a vertical blanking interval and sync pulses, comprising:

means for receiving a video signal with appended copy management information at a reproducing device via a satellite communication link; said copy management information including an indicator of whether copying of only digital data is inhibited or copying of both digital data and analog signals is inhibited;

means for detecting said copy management information that has been appended to the video signal;

means for generating a copy protection signal based on said copy management information; and

means for inserting said copy protection signal into the video signal by arraying a multiple of pseudo-sync pulses in the vertical blanking interval of the video signal, said pseudo-sync pulses having an amplitude substantially equal to the amplitude of the video signal sync pulses, and arraying a multiple of automatic gain control (AGC) pulses in the vertical blanking interval of the video signal; and

means for performing a pre-set conversion operation on said digital data and/or an analog signal generated from said digital data, based on said copy management information;

wherein said pre-set conversion operation for said analog signal includes a color burst inverting operation in which the phase of a front part of a color burst signal in said analog signal is inverted.

Claim 41. (previously presented) The apparatus according to claim 40, wherein the duration of said AGC pulses is substantially 3.0 microseconds.

Claim 42. (previously presented) The apparatus according to claim 40, wherein the video signal exhibits a peak white amplitude, and wherein the amplitude of said AGC pulses is greater than the peak white amplitude.

Claim 43. (Original) The apparatus according to claim 40, wherein said pseudo-sync and AGC pulses are inserted on lines 1 to 17 and 273 to 280 of the vertical blanking interval of the video signal.

Claim 44. (previously presented) The apparatus according to claim 40, wherein said pseudo-sync pulses have a duration of substantially 2.2 microseconds.

Claim 45. (Original) The apparatus according to claim 40, wherein the video signal includes color burst signals of particular phase, and further comprising means for modifying the phase of at least a portion of selected color burst signals of the video signal.

Claim 46. (Original) The apparatus according to claim 45, wherein the operations of arraying said pseudo-sync pulses, arraying said AGC pulses and modifying the phase are performed for two successive lines of every 17 lines of the vertical blanking interval beginning at line 30 in field 1 and at line 301 in field 2.

Claim 47. (Original) The apparatus according to claim 45, wherein the operations of arraying said pseudo-sync pulses, arraying said AGC pulses and modifying the phase are

performed for four successive lines of every 21 lines of the vertical blanking interval beginning at line 24 in field 1 and at line 297 in field 2.

Claim 48. (Original) The apparatus according to claim 40, further comprising:
means for generating charging information based on the received video signal;
and
means for transmitting said charging information to a billing center.

Claim 49. (Original) The apparatus according to claim 40, further comprising:
means for transmitting account status information from a billing center to said reproducing device; and
means for controlling reproduction of the video signal according to said account status information.

Claim 50. (Original) The apparatus according to claim 49, wherein said means for controlling comprises means for disabling the inserting of said copy protection signal into the video signal.

Claim 51. (Currently Amended) An apparatus for reproducing a video signal of the type having a vertical blanking interval, comprising:
means for receiving a video signal with appended copy management information at a reproducing device via a satellite communication link; said copy management

information including an indicator of whether copying of only digital data is inhibited or copying of both digital data and analog signals is inhibited;

means for detecting said copy management information that has been appended to the video signal in the form of a multiple of trigger bits in the video signal; and

means for arraying a multiple of pseudo-sync pulses and a multiple of automatic gain control pulses in the video signal when said trigger bits indicate that copying should be inhibited; and

means for performing a pre-set conversion operation on said digital data and/or an analog signal generated from said digital data, based on said copy management information;

wherein said pre-set conversion operation for said analog signal includes a color burst inverting operation in which the phase of a front part of a color burst signal in said analog signal is inverted.

Claim 52. (Original) The apparatus according to claim 51, wherein the video signal includes color burst signals of particular phase, and wherein when said trigger bits indicate that color burst modification should be performed, the phase of at least a portion of selected color burst signals of the video signal is modified.

Claim 53. (Original) The apparatus according to claim 51, wherein said trigger bits are only operable when copyright subsists in the video signal.

Claim 54. (Original) The apparatus according to claim 51, wherein said trigger bits are encoded in the vertical blanking interval of the video signal at line 20 of field 1 and line 20 of field 2.

Claim 55. (Original) The apparatus according to claim 54, wherein said trigger bits are bits 9 and 10 of word 2 in a 20 bit digital signal.

Claim 56. (Original) The apparatus according to claim 51, further comprising:
means for generating charging information based on the received video signal;
and
means for transmitting said charging information to a billing center.

Claim 57. (Original) The apparatus according to claim 51, further comprising:
means for transmitting account status information from a billing center to said reproducing device; and
means for controlling reproduction of the video signal according to said account status information.

Claim 58. (Original) The method according to claim 57, wherein said means for controlling comprises means for disabling the arraying a multiple of pseudo-sync pulses and a multiple of automatic gain control pulses in the vertical blanking interval of the video signal.